

REMARKS

Claims 1-9, 11-30, 32-36 and 44-46 are pending with claims 1-4, 12 and 13 being independent. Claims 10, 31 and 37-43 have been cancelled. Claims 1-9, 11-30, 32-36 and 44-46 have been amended. The specification has been amended to correct a minor error. No new matter has been introduced.

Allowable Subject Matter

Applicant thanks the Examiner for indicating that independent claim 4, along with its dependent claims 19, 22, 25, 28 and 34, are allowed.

Claim Rejections – 35 U.S.C. § 102

Claims 1-3, 5-10, 17, 18, 20, 21, 23,24, 26, 27, 29-33, 35-39 and 41-43 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 3,766,543 (“Te Winkel”). Applicant has amended independent claim 1 to more clearly distinguish it from the technology described by Te Winkel. Applicant has amended claims 2-9, 11-30, 32-36 and 44-46 for clarity and not for purposes of overcoming the rejections set forth in the Office Action.

As amended, independent claim 1 recites an electronic device having an electronic circuit comprising a driving element including a plurality of transistors. The plurality of transistors are connected in series when inputting current as a first step and the plurality of transistors are connected in parallel when outputting current as a second step.

Applicant requests reconsideration and withdrawal of the rejection of claim 1, and its dependent claims, because Te Winkel fails to describe or suggest that “the plurality of transistors are connected in series when inputting current as a first step and the plurality of transistors are connected in parallel when outputting current as a second step,” as recited in claim 1.

A non-limiting example of this approach is described in the application with respect to FIGS. 1(A)-1(D) and at page 7, lines 1-15. In particular, this passage states:

The first switch 12, the second switch 13, the third switch 14, and the fourth switch 18 are controlled as follows when current data is inputted and

outputted. When the current data is inputted, the first switch 12 and the second switch 13 are turned OFF (open), while the third switch 14 and the fourth switch 18 are turned ON (conductive). On the other hand, when the current data is outputted, the first switch 12 and the second switch 13 are turned ON (conductive), while the third switch 14 and the fourth switch 18 are turned OFF (open). Results of the foregoing operations are shown in FIGS. ~~2(C) and 2(D)~~ 1(C) and 1(D). FIG. ~~2(C)~~ 1(C) shows a current path in the case of inputting current data in a bold line, and FIG. ~~2(D)~~ 1(D) shows a current path in the case of outputting current data in a bold line. In FIG. ~~2(C)~~ 1(C), a current flows through three transistors of a driving element in a series state, while in FIG. ~~2(D)~~ 1(D) a current flows through three transistors of a driving element in a parallel state.

Te Winkel does not describe such an approach.

Te Winkel relates to a current divider circuit. See Te Winkel at Abstract. The current divider circuit supplies a plurality of output currents, the value of each of which is in a fixed ratio to the value of an input current. See Te Winkel at col. 1, lines 18-22. Te Winkel describes that an essential feature of the current divider circuit is the accuracy with which the desired current ratios are obtained. See Te Winkel at col. 2, lines 2-4. As such, the technology described by Te Winkel focuses on a current divider circuit that achieves, with a high degree of accuracy, desired current ratios between input and output currents. See Te Winkel at col. 2, lines 21-25.

Regarding claim 1, the Office Action asserts that Te Winkel, in FIG. 5, discloses an electronic circuit comprising a driving element including a plurality of transistors (S41, S42 and S43), and the Office Action further asserts the plurality of transistors (S41, S42 and S43) are connected in series when inputting current and are connected in parallel when outputting current. See Office Action at page 2, lines 10-17 (stating “the transistors S41, S42 and S43 is [*sic*] connected in series when inputting current Ib, 2Ib and 4Ib”...and “the output current I-Ib of transistor S41, output current 2I-2Ib of the transistor S42 and the output current 4I-4Ib of the transistor S43 is [*sic*] connected in parallel”).

Assuming, *arguendo*, the Office Action's assertion is correct, Te Winkel still fails to describe or suggest that “the plurality of transistors are connected in series when inputting current as a first step and the plurality of transistors are connected in parallel when outputting current as a second step,” as recited in claim 1. In particular, assuming *arguendo*, that the

transistors (S41, S42 and S43) of Te Winkel were to be connected in series when inputting current I_b , $2I_b$ and $4I_b$, respectively, and they were to be connected in parallel when outputting current $I-I_b$, $2I-2I_b$ and $4I-4I_b$, respectively, the transistors would be connected in series and in parallel simultaneously and input and output would be performed simultaneously. In contrast, in claim 1 and as illustrated in the above example, the plurality of transistors are not connected in series and parallel simultaneously, but rather in series when inputting current as a first step and connected in parallel when outputting current as a second step.

Accordingly, Te Winkel is not seen to describe or suggest that “the plurality of transistors are connected in series when inputting current as a first step and the plurality of transistors are connected in parallel when outputting current as a second step,” as recited in claim 1. For at least these reasons, applicant requests reconsideration and withdrawal of the rejection of claim 1, along with its dependent claims.

Independent claim 2 recites, among other features, that “the electronic circuit has means to switch between a series connection state and a parallel connection state of the plurality of transistors.” Accordingly, applicant requests reconsideration and withdrawal of the rejection of claim 2, along with its dependent claims, for at least the reasons presented above with respect to claim 1.

Similarly, independent claim 3 recites a switch for switching between the series connection state and the parallel connection state of the plurality of transistors, and has been amended to more clearly recite this feature. In particular, as amended, claim 3 recites “a switch switches the plurality of transistors between a series connection state and a parallel connection state.”

Accordingly, applicant requests reconsideration and withdrawal of the rejection of claim 3, along with its dependent claims, for at least the reasons presented above with respect to claim 1.

Claim Rejections – 35 U.S.C. § 103

Claim 11 depends from claim 1, and it was rejected under 35 U.S.C. 103(a) as being unpatentable over Te Winkel in view of U.S. Patent Number 6,586,888 (“Kitahara”). Kitahara fails to remedy the shortcomings of Te Winkel to describe or suggest a switching component for switching between the series connection state and the parallel connection state of the plurality of transistors. And, notably, the Office Action does not rely on Kitahara to show a switching component for switching between the series connection state and the parallel connection state of the plurality of transistors. For at least these reasons, applicant requests reconsideration and withdrawal of the rejection of claim 11.

Independent claims 12 and 13, along with their dependent claims 14-16, 45 and 46, were also rejected under 35 U.S.C. 103(a) as being unpatentable over Te Winkel in view of Kitahara. Claim 12 includes, among other features, “an electronic circuit has means to switch between a series connection state and a parallel connection state of the plurality of transistors.” As such, applicant requests reconsideration and withdrawal of the rejection of claim 12, along with its dependent claims, for at least the reasons presented above with respect to claim 1.

Claim 13 includes, among other features, “[a] switch switches the plurality of transistors between a series connection state and a parallel connection state.” As such, applicant requests reconsideration and withdrawal of the rejection of claim 13, along with its dependent claims, for at least the reasons presented above with respect to claim 1.

Applicant submits that all claims are in condition for allowance.

Conclusion

It is believed that all of the pending issues have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this reply should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this reply, and the

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amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

No fee is believed to be due. However, please apply any other charges or credits to Deposit Account 06-1050.

Respectfully submitted,

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